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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

QUASH, ANTHONY G

ART UNIT	PAPER NUMBER
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2881

DATE MAILED: 03/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/737,660

Applicant(s)

KRUTCHINSKY ET AL.

Examiner

Anthony Quash

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-48 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Claim Objections

Laser 22 on page 9 line 5 of the specification is not shown in the figures. Numeral 14 is labeled a compact disc on page 9 line 2 and a source in line 25 on page 9 in the specification. Appropriate correction is required. Slit 136 on page 10 line 21 is not labeled in the drawings. Bore 110 on page 11 line 7 is not labeled in the drawings. Shaft lock/release screw on page 11 lines 9 and 10 is mislabeled as numeral 106 and should be labeled 108. Focusing lens 156 on page 12 line 14 is missing from the drawings. Numeral 162 in figure 6 is labeled the entrance on page 12 line 22 and on the same page it is labeled input of the ion guide in line 27. My on page 5 line 20 should be may. Claim 8 is a duplicate of claim 7. Claim 43 is a duplicate of claim 29. Claim 28 is objected to for repeating the element "UV spectrometer". Appropriate correction is required.

Claims 11-19, 30-38 are objected to as being dependent upon a rejected base claim.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 31-38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Claims 31-34, recites the limitation "the positioning guide" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 35,37 recites the limitation "the positioning guide" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claims 34-38 recites the limitation "ion guide rods" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 46-47 are rejected under 35 U.S.C. 102(b) as being anticipated by Biemann [243]. As per claim 46, Biemann [243] discloses a method of carrying out an

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inspection of a sample of a material comprising the steps of providing a substrate (12), depositing at least one sample (16) of a material to be analyzed onto the substrate (12), inspecting the sample (16) means for effecting a physical change in at least one sample (16), probing the sample with inspection means (IR source, 72) to effect a physical change in the sample (16), creating motion between the inspection means (IR source, 72) and the at least one sample by moving one of the substrate (12) or inspection means (IR source, 72). See Biemann [243] figs. 1-12, col. 3 lines 32-69, col. 4 lines 5-20, col. 5 lines 1-45, and columns 7-8.

As per claim 47, Biemann [243] teaches the inspection means (IR source, 72) being selected from the group consisting of a laser source, an ion source (72), and a source of visible light, a source of infrared radiation (IR source) and a source of ultraviolet radiation, and a source of surface plasma resonance. See Biemann [243] fig. 7 and col. 6 lines 30-45.

Claims 1,21,23,27,42,46 are rejected under 35 U.S.C. 102(e) as being anticipated by Gordon [031]. As per claims 1,27,46, Gordon [031] discloses an apparatus and method for examining and inspecting at least one sample, in order to determine characteristics of the sample, the apparatus comprising a support (45) for receiving a compact disc (1,44), the compact disc (1,44) having deposited on a surface thereof at least one sample, inspection means for effecting a physical change in at least one sample, the inspection means positioned for registration with the surface of the compact disc (1,44) bearing at least one sample, and a traversal mechanism (47,48) adapted for reciprocating movement, to move the sample in and out of the path of the

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inspection means. See Gordon [031] abstract, figs. 1,3,5-7, col. 2 lines 13-35, col. 7 lines 40-57, col. 9 lines 10-25, 40-50, col. 10 lines 30-50 and col. 11 lines 1-12.

As per claim 21, Gordon [031] discloses the inspection means being further capable of examining and inspecting information stored on the surface of the compact disc (1,44). See Gordon [031] abstract, figs. 1,3,5-7, col. 2 lines 13-35, col. 7 lines 40-57, col. 9 lines 10-25,40-50, col. 10 lines 30-50 and col. 11 lines 1-12.

As per claims 23 and 42, Gordon [031] discloses a second inspection means for examining and inspecting information stored on a surface of the compact disc (1,44) that is opposite the surface of which the sample is stored. See Gordon [031] abstract, figs. 1,3,5-7, col. 2 lines 13-35, col. 7 lines 40-57, col. 9 lines 10-25,40-50 col. 10 lines 30-50 and col. 11 lines 1-12.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10,20-22,24-26,40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Biemann [243]. As per claim 1, Biemann [243] teaches an apparatus for examining and inspecting at least one sample (16), in order to determine characteristics of the sample (16), the apparatus comprising a support (27,26) for receiving a compact disc (12) having deposited on a surface thereof at least one sample

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(16); inspection means (IR source, 72) for effecting a physical change in at least one sample (16) and a transversal mechanism (20) adapted for reciprocating movement, to move the sample in and out of the path of the inspection means (IR source, 72). See Biemann [243] abstract, col. 3 lines 33-69, col. 4 lines 5-20, col. 5 lines 1-45 and col. 8 lines 1-23. However, Biemann [243] does not specifically state the inspection means (IR source, 72) positioned for registration with the surface of the compact disc bearing at least one sample (16). Biemann [243] does teach the apparatus being rotated while recording spectra continuously. It also teaches that disc (12) can be rotated to a particular sample (16) deposited on the disc at a specific position. See Biemann [243] col. 5 lines 25-32. In addition, Biemann [243] teaches that the interval between sample (16) positions by can be examined as a time record of separation intervals by the computer. Biemann [243] also teaches that identification markings can be added to the disc (12). See Biemann [243] col. 7 lines 35-42, and col. 8 lines 45-55. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the inspection means (IR source, 72) positioned for registration with the surface of the compact disc bearing at least one sample (16) in order to repeat analysis of specific samples as taught in Biemann [243].

As per claim 2, Biemann [243] teaches the transversal mechanism (20) being a driver having a rotatable drive mechanism that rotates the compact disc (12). See Biemann [243] figs. 1,4,7, col. 5 lines 25-45, and col. 11 lines 4-10.

As per claims 3-4, Biemann [243] teaches the transversal mechanism (20) effectuating positional change between the sample (16) and the compact disc (12) in

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the radial direction. See Biemann [243] figs. 1,4,7, col. 5 lines 25-45, and col. 11 lines 4-10.

As per claim 5, Biemann [243] teaches the inspection means (IR source, 72) being selected from the group consisting of a laser source, an ion source (72), and a source of visible light, a source of infrared radiation (IR source) and a source of ultraviolet radiation. See Biemann [243] fig. 7 and col. 6 lines 30-45.

As per claim 6, Biemann [243] teaches the transversal mechanism (20) being a driver having a rotatable drive mechanism that rotates the compact disc (12). See Biemann [243] figs. 1,4,7, col. 5 lines 25-45, and col. 11 lines 4-10.

As per claims 7, 8, Biemann [243] teaches the transversal mechanism (20) effectuating positional change between the sample (16) and the compact disc (12) in the radial direction. See Biemann [243] figs. 1,4,7, col. 5 lines 25-45, and col. 11 lines 4-10.

As per claim 9, Biemann [243] teaches that the analytical device is to be selected from the group consisting of a mass spectrometers, UV spectrometers, fluorescence detectors, an infrared spectrometers, visible light spectrometers, RAMAN spectrometers, surface plasma resonators, and atomic force microscopes. See Biemann [243] col. 6 lines 30-45 and col. 7 lines 64-69.

As per claim 10, Biemann [243] teaches all aspects of the claim except for specifically stating that the mass spectrometer incorporating the apparatus further be comprised of an analyzer selected from the group consisting of quadrupole, time of flight (TOF), quadrupole TOF, quadrupole-quadrupole TOF (Qq TOF) triple quadrupole

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TOF, magnetic sector, and ion trap mass analyzers. Biemann [243] does teach that the apparatus is advantageously compatible with all forms of mass spectrometry, including quadrupole spectrometry. See Biemann [243] col. 7 lines 64-69 and col. 8 lines 1-10. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the mass spectrometer incorporating the apparatus further be comprised of an analyzer selected from the group consisting of quadrupole, time of flight (TOF), quadrupole TOF, quadrupole-quadrupole TOF (Qq TOF) triple quadrupole TOF, magnetic sector, and ion trap mass analyzers in order to aid in identifying the components of the sample.

As per claim 20, Biemann [243] teaches digital information associated with at least one sample (16) being positioned on the disc (12). See Biemann [243] col. 6 lines 45-52 and col. 8 lines 35-60.

As per claim 21, Biemann [243] teaches the inspection means being capable of examining and inspecting information stored on the surface of the compact disc (12). See Biemann [243] col. 8 lines 35-58.

As per claim 22, Biemann [243] teaches information being stored on the surface of the compact disc (12) on which the sample (16) is stored. See Biemann [243] col. 8 lines 35-58.

As per claim 24, Biemann [243] teaches the inspection means (IR source, 72) being selected from the group consisting of a laser source, an ion source (72), and a source of visible light, a source of infrared radiation (IR source) and a source of

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ultraviolet radiation, and a source of surface plasma resonance. See Biemann [243] fig. 7 and col. 6 lines 30-45.

As per claim 25, Biemann [243] teaches the information stored on the disc being related to sample identity. See Biemann [243] col. 8 lines 42-60.

As per claim 26, Biemann [243] teaches the information stored on the disc related to movement of the disc. See Biemann [243] col. 8 lines 35-58.

As per claim 40, Biemann [243] teaches the inspection means being capable of examining and inspecting information stored on the surface of the compact disc (12). See Biemann [243] col. 8 lines 35-58.

Claims 27-29,32,39,41,43,44,45,48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Biemann [243]. As per claim 27, Biemann [243] teaches an analytical device for determining the properties of at least one sample (16) of material, the analytical device comprising a base (27), a substrate (12) adapted to be rotatably received by the base (27), the substrate (12) having deposited thereon at least one sample (16) of the material to be analyzed, an inspection means (IR source, 72) for effecting a physical change in the at least one sample (16), the inspection means (IR source, 72) movably associated with the base (27), a translation system adapted to effect a change in position between the inspection means (IR source,72) and the substrate (12). See Biemann [243] abstract, col. 3 lines 33-69, col. 4 lines 5-20, col. 5 lines 1-45 and col. 8 lines 1-23. However, Biemann [243] does not specifically state the inspection means (IR source, 72) registering with the at least one sample (16) on the substrate (12), at a predetermined location on the substrate (12). Biemann [243] does

teach the apparatus being rotated while recording spectra continuously. It also teaches that disc (12) can be rotated to a particular sample (16) deposited on the substrate (12) at a specific position. See Biemann [243] col. 5 lines 25-32. In addition, Biemann [243] teaches that the interval between sample (16) positions by can be examined as a time record of separation intervals by the computer. Biemann [243] also teaches that identification markings can be added to the substrate (12). See Biemann [243] col. 7 lines 35-42, and col. 8 lines 45-55. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the inspection means (IR source, 72) registered with the at least one sample (16) on the substrate (12), at a predetermined location on the substrate (12) in order to repeat analysis of specific samples and aid in the identification of specific samples as taught in Biemann [243].

As per claim 28, Biemann [243] teaches that the analytical device is to be selected from the group consisting of a mass spectrometers, UV spectrometers, fluorescence detectors, an infrared spectrometers, visible light spectrometers, RAMAN spectrometers, surface plasma resonators, and atomic force microscopes. See Biemann [243] col. 6 lines 30-45 and col. 7 lines 64-69.

As per claims 29,43, Biemann [243] teaches the inspection means (IR source, 72) being selected from the group consisting of a laser source, an ion source (72), and a source of visible light, a source of infrared radiation (IR source) and a source of ultraviolet radiation, and a source of surface plasma resonance. See Biemann [243] fig. 7 and col. 6 lines 30-45.

As per claim 32, Biemann [243] teaches the positioning guide being movable in at least one of an X direction and a Y direction. See Biemann [243] fig. 4 and col. 5 lines 30-40.

As per claim 39, Biemann [243] teaches digital information associated with at least one sample (16) being positioned on the disc (12). See Biemann [243] col. 6 lines 45-52 and col. 8 lines 35-60.

As per claim 41, Biemann [243] teaches information being stored on the surface of the compact disc (12) on which the sample (16) is stored. See Biemann [243] col. 8 lines 35-58.

As per claim 44, Biemann [243] teaches the information stored on the disc being related to sample identity. See Biemann [243] col. 8 lines 42-60.

As per claim 45, Biemann [243] teaches the information stored on the disc related to movement of the disc. See Biemann [243] col. 8 lines 35-58.

Claims 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Biemann [243] in view of Luster [051]. As per claim 48, Biemann [243] teaches the compact disc (12) being provided with a clear surface, and a coating of a metallization layer over a data layer within the compact disc (12). See Biemann [243] figs. 9-10 and col. 7 lines 58. However, Biemann [243] does not specifically state that the clear surface is made of polycarbonate. Luster [051] teaches that is well known to provide the compact disc with a clear polycarbonate surface, and a coating of a metallization layer over a data layer within the compact disc. See Luster [051] col. 1 lines 10-20. Therefore, it would have been obvious to one having ordinary skill in the art at the time

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the invention was made to have the clear surface be made of polycarbonate, since it was well known to do so as taught in Luster [051].

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent Nos. 6,356,346 to Hagen et al, 5,413,939 to Gustafson et al, and 5,898,181 to Vurens. The above patents mentioned are pertinent because of their teachings of an inspection apparatus comprising a disk for inspecting samples place on the disk, which are rotated.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Quash whose telephone number is (703)-308-6555. The examiner can normally be reached on M-F from 9 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee, can be reached on (703)-308-4116. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-0956.



A. Quash 3/10/03



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